

James E. Geringer (JEG 3707)
james.geringer@klarquist.com
KLARQUIST SPARKMAN, LLP
121 S.W. Salmon Street, Suite 1600
Portland, Oregon 97204
(503) 595-5300

Peter J. Gallagher (PG 9427)
PGallagher@jgmlaw.com
Joshua Sivin (JS 7237)
JSivin@jgmlaw.com
JOHNSON GALLAGHER MAGLIERY LLC
99 Wall Street, 15th Floor
New York, New York 10005
(212) 248-2230

Attorneys for Defendant Nautilus, Inc.

**UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

BIOSIG INSTRUMENTS, INC.,

Plaintiff,

v.

NAUTILUS, INC.,

Defendant.

Case No. 10-CV-7722 (AKH)

**DEFENDANT NAUTILUS, INC.'S
CLAIM CONSTRUCTION
REPLY BRIEF**

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I. INTRODUCTION

When faced with a rejection over prior art showing a heart rate monitor with substantially identical structure, Biosig made explicit arguments, and presented test results, to distinguish that prior art from the claims of the '753 patent. The Patent Office explicitly relied on Biosig's statements to withdraw its rejection and issue a Reexamination Certificate. (JA 741). Long-established case law and fundamental fairness dictate that Biosig's statements be reflected in claim construction, so that the public's right to rely upon the intrinsic record is not undermined.

II. THE FILE HISTORY MATTERS: ARGUMENTS MADE TO DISTINGUISH PRIOR ART MATTER FOR CLAIM CONSTRUCTION

"Spaced relationship" After being rejected in Reexamination over the Fujisaki '200 patent, Biosig argued and declared that "In the [Fujisaki] '200 patent, the space between electrodes is narrower than the width of each electrode, whereas in the '753 patent the space between electrodes is wider than the width of each electrode." (JA 199 (mid-page); JA 241, ¶79). Biosig swore further that "Upon seeing the figures depicting the detector electrodes in the '200 patent, any knowledgeable person in the field as of 1992 would conclude that any detected EMG on the right and left hands would be unequal and thus could not be cancelled by the differential amplifier." (JA 233, ¶ 42). These arguments about electrode configuration (i.e., their "spaced relationship with each other") were expressly cited by the Examiner as "persuasive." JA 741 ("[Biosig] argues that configuring the electrodes to substantially minimize the detected EMG from both hands on an exercise machine is not taught by the prior art, and that one of ordinary skill would adjust for noise downstream of the difference amplifier. . . . Examiner finds the presented arguments to be persuasive."). The public has the right to rely on this clear distinction. *See Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.*, 222 F.3d 951, 957 (Fed. Cir. 2000) (rejecting attempt to "erase" a file history argument made to distinguish prior art as "inimical to the public notice function provided by the file history."). *See also Jonsson v. Stanley Works*, 903

F.2d 812, 817-18 (Fed. Cir. 1990) (patentee's statements elsewhere in prosecution history "cannot rebut [its] clear explanation" of claim term); *Du Pont v Phillips*, 849 F.2d 1430, 1438-39 (Fed. Cir. 1988) (rejecting argument based on subsequent PTO action in the file history, stating "That misses the point."). Simply stated, Biosig cannot retract arguments it made in order to distinguish prior art. To the contrary, those statements are "binding" in litigation. *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1158 (Fed. Cir. 1997); *Elkay v Ebco*, 192 F.3d 973, 978-79 (Fed. Cir. 1999); *Southwall Techs. v Cardinal*, 54 F.3d 1570, 1576 (Fed. Cir. 1995); *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452-53 (Fed. Cir. 1985) (patentee "surrendered" a class of catalyst by argument in reissue proceeding to distinguish prior art).

Biosig's own proposed construction simply ignores the prosecution history. Indeed, rather than honor the distinction it made versus Fujisaki, Biosig instead seeks a construction of this term that would read on prior art electrode configurations that it distinguished. Biosig's only arguments for doing so are the June 27 tutorial (which did not decide this issue), "plain meaning" (which is trumped here by intrinsic evidence), and alleged confusion of Biosig's own making (i.e., unscaled photographs cited elsewhere in the file history). The latter attempt to nullify a clear statement used to distinguish prior art should fail here, just as it did in *Du Pont*, *Jonsson*, and *Hockerson-Halberstadt*. "[A]rguments made during prosecution shed light on what the applicant meant by various terms." *Id.* Blurry photographs that are neither measured nor characterized in terms of their electrodes' spaced relationship cannot erase Biosig's "clear explanation." *Jonsson*, 903 F.2d at 818. Moreover, contrary to Biosig's argument at page 3 of its brief (Dkt. 19 at 6), the language that Nautilus requests in its construction of this term is not taken from a mere preferred embodiment in the patent specification, but from Biosig's own explicit arguments to distinguish prior art. Nautilus now asks simply that Biosig be held to

Biosig's own words. This simple fact distinguishes most of the cases cited by Biosig;¹ others support Nautilus. *See, e.g., Voda v Cordis Corp.*, 536 F.3d 1311 (Fed. Cir. 2008) (remarks held limiting for catheter length). The erasure that Biosig seeks would undo express file history argument, and substitute confusion for clarity. The table appended to this brief illustrates Biosig's contradictory positions on this claim element. Nautilus's construction would avoid confusion by holding Biosig to its word: namely, that in the '753 patent, "the space between electrodes is wider than the width of each electrode." (Remarks at JA 199; Decl. at JA 241, ¶79).

"Substantially zero": Biosig coined a new definition for "substantially zero" EMG in the Reexamination to distinguish the prior art: namely, an ECG/EMG ratio "in the range of about 3 and 10" when holding the electrodes in particular, heretofore-undefined ways ("non-relaxed" and "grasping," as opposed to "relaxed"). Biosig needed this new definition, because even the arbitrarily proportioned, large-scaled embodiment that Biosig built as a surrogate for the Fujisaki '200 during the Reexamination proceedings WORKED. It scored an ECG/EMG ratio of 10.5 for "relaxed" holding, and 1.1 for "non-relaxed" holding (whatever those terms mean). Biosig thus used its newly-coined definition to exclude structurally identical prior art, giving limited meaning to a "whereby" clause that had none. *Israel v Cresswell*, 166 F.2d 153, 156 (CCPA 1948) ("whereby" clause "adds nothing to the patentability of a claim."). This exclusion should therefore be reflected in the claim construction of the "substantially zero" clause. Biosig's proposed construction, which would erase this distinction, should be rejected for the same

¹ *See Lazare Kaplan v Photoscribe*, 628 F.3d 1359, 1370 (Fed. Cir. 2010) (prior art distinctions were "consistent" with proposed construction); *Ventana Medical Systems v. Biogenex Labs*, 473 F.3d 1173 (Fed. Cir. 2006) (inapposite: no arguments made to distinguish prior art in file history); *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005) (inapposite: Notice of Allowability confirmed that a "dual" pathway was not required); *Teleflex, Inc. v. Ficosa*, 299 F.3d 1313 (Fec. Cir. 2002) (inapposite: no definition of "clip" in the file history).

reasons set forth for “spaced relationship” – it is inconsistent with the prosecution file history.

III. THE SPECIFICATION MATTERS: INTER ALIA, IT SUPPLIES THE STRUCTURE FOR THE “MEANS FOR MEASURING TIME INTERVALS BETWEEN HEART PULSES ON DETECTED [ECG] SIGNAL[S]”

Means plus function claims are construed according to special rules. Those rules send the Court to the specification to find structure that corresponds with the recited function. For the first of the two means plus function elements in dispute, the undisputed function is to measure time intervals between heart pulses on detected ECG signals. Nautilus contends that performing this function requires more than a computer, because computers don’t detect ECG pulses. Rather, it is the bandpass filter and threshold limiter that detect pulses, as explained in the ‘753 patent specification at 3:14-25. Unasserted Claim 4 confirms that the structure for this element includes these elements, because claim 4 expressly recites these elements for this function, and without question claim 4 falls within the scope of claim 1. Biosig’s proposed construction, omits structure needed to perform the recited function.

IV. CONCLUSION

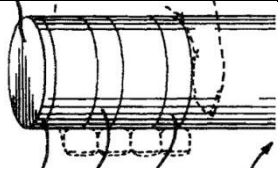

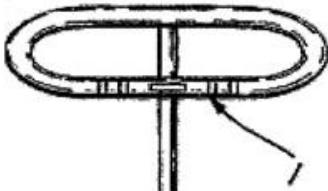

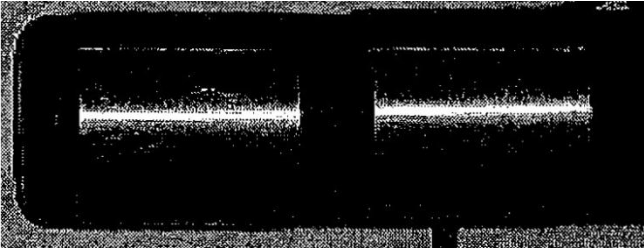
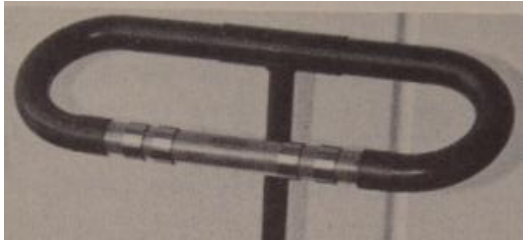
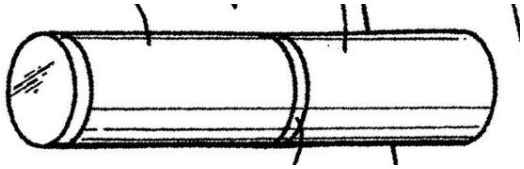
Biosig narrowed the scope of its claims when it made arguments to distinguish prior art in order to secure the ’753 patent. It does not matter that Biosig made these distinctions by argument rather than express amendment. *See, e.g., Elkay*, 192 F.3d at 979. What matters is that Biosig made those arguments to distinguish prior art, and the Patent Office relied on those arguments. The public should be able to do so as well.

Respectfully submitted,

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By: /s/ James E. Geringer
James E. Geringer (JEG 3707)
KLARQUIST SPARKMAN, LLP
121 S.W. Salmon Street, Suite 1600
Portland, Oregon 97204

OF ATTORNEYS FOR DEFENDANT NAUTILUS, INC.

<p align="center">TABLE</p> <p align="center">Two electrodes “in spaced relationship with each other”</p>	
<p>Biosig contends these configurations are covered by claim 1</p>	<p>Biosig contends these structures are <u>not</u> covered by claim 1</p>
 <p>(JA 002) (crop of ‘753 Fig. 1)</p>  <p>(JA 42) (1992 application – crop of original Figure 5)</p>  <p>(JA 336) (crop of ‘753 Figure 5)</p>  <p>(JA 1049) (crop of Biosig mock-up)</p>  <p>(JA 331) (Cited by Biosig in its Opening Brief)</p>	 <p>(JA 336, JA 576 (crop)) The “E” <u>Factor</u> (1988))</p>  <p>(JA 556) Fujisaki ‘200 Fig. 2</p>

PROOF OF SERVICE

The undersigned certifies that on the 20th day of July, 2011, the foregoing pleading was electronically filed with the Court. Pursuant to Local Rule 5.2, and the Court's Procedures for Electronic Filing, this constitutes service on counsel of record for Plaintiff Biosig Instruments, Inc.

/s/ James E. Geringer
James E. Geringer (JEG 3707)
james.geringer@klarquist.com
KLARQUIST SPARKMAN, LLP
121 S.W. Salmon Street, Suite 1600
Portland, Oregon 97204
(503) 595-5300